U.S.S.N. 10/675,874

Filed: September 30, 2003

AMENDMENT & RESPONSE

TO OFFICE ACTION

Remarks

Claims 1-12 and 14-56 are pending upon entry of the foregoing amendments.

Amendments to the Claims

Claims 1, 3, 31, 32, 33, 46, and 50 have been amended to specify that the matrix material

is hydrophobic. Support for these amendments can be found in the specification, for example, at

page 30, lines 24-25. Claim 11 has been amended to comport with the amendment to claim 1.

Claim 13 has been cancelled.

Rejection under 35 U.S.C. § 103

Claims 1-7, 10-12, 14-21, 27, 30, 32-36, 38-48, and 50-53 are rejected under 35 U.S.C. §

103(a) as obvious over U.S. Patent No. 6,395,300 to Straub et al. (hereinafter "Straub"). The

rejection is respectfully traversed if applied to the claims as amended.

Applicants' Claimed Methods and Compositions

Most pharmaceutical agents delivered by inhalation are *immediate* release formulations

that must be inhaled multiple times per day, which discourages patient compliance (Pg. 1, Lns.

17-19). The frequent inhalation dosing of immediate release formulations leads to

pharmaceutical agent levels that peak and trough, causing undesirable toxicity or inadequate

efficacy (Pg. 1, Lns. 19-21). In contrast with these typical formulations, Applicants' claimed

methods and formulations use microparticles comprising a hydrophobic matrix material to

provide sustained drug release. Specifically, Applicants have discovered that the composition of

the microparticles (e.g., the matrix material and pharmaceutical agent) may be selected in

combination with geometric size and average porosity to provide delayed release and avoid the

burst effect associated with immediate release formulations (Pg. 7, Lns. 7-9).

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Straub

In contrast with Applicants' claimed methods and formulations, which use hydrophobic

matrix material to *delay* drug release, Straub discloses that drugs, especially low aqueous

solubility drugs, can be provided in microparticles so as to enhance the dissolution of the drug

(Abstract). In order to speed up drug release, Straub specifies the use of drug matrices that

include hydrophilic excipients and hydrophilic polymers (Col.8, Lns. 11 and 36). These

hydrophilic materials allow water to penetrate the matrices and increase the dissolution of the

drug (Col. 8, Lns. 14-21). Because Straub teaches the use of the *hydrophilic* matrices materials

in order to *increase* drug release, it <u>teaches away</u> from the use of *hydrophobic* matrices materials

for sustained drug release. In other words, Straub is directed to increasing the rate of release of a

hydrophobic drug that otherwise might not release in a therapeutically effective amount, while in

the instant application, the Applicants' claims are directed to microparticles for sustaining

release of a drug over a longer period in a therapeutically effective amount, keeping it from

releasing too quickly. Applicants' claimed methods and formulations are therefore clearly non-

obvious over Straub.

Conclusions

For the foregoing reasons, Applicants submit that the claims are patentable over the prior

art of record. Allowance of claims 1-12 and 14-56 is therefore respectfully solicited.

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The undersigned respectfully invites the Examiner to contact him by telephone

(404.853.8068) if any outstanding issues can be resolved by conference or examiner's

amendment.

Respectfully submitted,

Kevin W. King

Reg. No. 42,737

Date: June 18, 2007

SUTHERLAND ASBILL & BRENNAN LLP 999 Peachtree Street, NE Atlanta, Georgia 30309-3996 (404) 853-8068

(404) 853-8806 (fax)

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